# REMARKS

In response to the Examiner's Action mailed on December 11, 2006, claims 1, 2, 6, 7, 14, 19 to 21, 25 to 27 are amended. The applicant hereby respectfully requests that the patent application be reconsidered.

An item-by-item response to Examiner's objections or rejections is provided in the followings:

## 1. *Objection of claims because of Informalities*

The Examiner objects to claims 6, 7, and 19 for various informalities.

In response to the objections, claims 6, 7 and 19 are amended with the informalities corrected.

## 2. *Rejections of claims Under 35 USC 103*

The Examiner rejects claims **1-3, 6,9,11-12** under 35 U.S.C. 103(a) as being unpatentable over Lipmann in view of Endou, Lijima and Wood. The Examiner further rejects claims **Claims** 14-16, 19-22 and 25 under 35 U.S.C. 103(a) as being unpatentable over Lipmann in view of Endou and Wood. The Examiner further rejects claims **Claim** 27 under 35 U.S.C. 103(a) as being unpatentable over Endou in view of Funakoshi et al. The Examiner further rejects claims **Claim** 4 under 35 U.S.C. 103(a) as being unpatentable over Lipmann, Endou, Lijima and Wood. The Examiner further rejects claims **Claim** 5 under 35 U.S.C. 103(a) as being unpatentable over Lipmann, Endou, Lijima and Wood. The Examiner further rejects claims 7 under 35 U.S.C. 103(a) as being unpatentable over Lipmann, Endou, and Wood. The Examiner further rejects **Claim** 8 under 35 U.S.C. 103(a) as being unpatentable over Lipmann, Endou, Lijima and Wood. The Examiner further rejects **Claim** 10 under 35 U.S.C. 103(a) as being unpatentable over Lipmann, Endou, Lijima and Wood. The Examiner further rejects **Claim** 13 under 35 U.S.C. 103(a) as being unpatentable over Lipmann, Endou, Lijima and Wood. The Examiner further rejects **Claim** 17 and 23 under 35 U.S.C. 103(a) as being unpatentable over Lipmann, Endou, and Wood. The Examiner further rejects **Claim** 18, 24, and 26 under 35 U.S.C. 103(a) as being unpatentable over Lipmann, Endou, and Wood and Yasue. The Examiner further rejects **Claim** 19 and 25 under 35 U.S.C. 103(a) as being unpatentable over Lipmann, Endou, Lijima and Wood.

In response to the rejections, claims 1, 2, 6, 7, 14, 19 to 21, 25 to 27 are amended. The amended claims are now added with additional elements with significantly reduced scopes with limitations that the "color-specific temperature-dependent reference voltages are applied as color-specific temperature dependent switchable DC-balancing voltages". Specifically, the amended claim 1 is now directed to a liquid crystal display (LCD) system implemented with a thermal control and management system comprising:

a) a temperature sensor system disposed directly **on a backplane of a silicon die of a LCD microdisplay device immediately next to a liquid crystal material** for directly measuring a temperature of said microdisplay device and generating a temperature measurement signal;

b) a microdisplay controller for controlling voltages of said microdisplay device and receiving said temperature signal for transmitting a digital signal to a system processor; and

c) said system processor having a color-specific-thermal-effect voltage database for receiving and processing said temperature measurement signal by employing said color-specific thermal-effect voltage database to generate a color specific temperature-dependent reference voltages to apply as switchable DC-balancing reference voltages for operating said microdisplay system by accounting for a thermal-effect of color balance whereby said color specific temperature dependent reference voltages are most suitable for said temperature measurement signal and also for said DC-balancing reference voltages.

In the amended claim 27, the invention is directed to a method for controlling and compensating temperature effects of a microdisplay system comprising:

a) measuring a microdisplay temperature, one for each color channel; and

b) preloading lookup tables having measured/predicted data for a display, to modify a liquid crystal voltage operating range by generating and applying two switchable color-specific DC-balancing voltages **to a common electrode connected to a plurality of pixel cells of said LCD system** of said microdisplay for each color as required to achieve and maintain a proper white point operating point for said microdisplay.

The amended claims as now presented in claims 1-27 includes the application of "switchable color-specific temperature dependent DC-balancing reference voltages **applied to a common electrode connected to a plurality of pixel cells of said LCD system** " to control the display voltages. Such scopes and limitations are not disclosed nor motivated by the cited prior art references. Furthermore, the temperature sensor are IC chips mounted directly **on a backplane of a silicon die of a LCD microdisplay device immediately next to a liquid crystal material** for directly measuring a temperature of said microdisplay device and generating a temperature measurement signal. Such configuration and implementations are not disclosed nor are they motivated or suggested in the cited prior art references. Therefore, the amended claims would be patentable over the cited prior art references and the Applicants respectfully request that the rejection be withdrawn for the amended claims 1-27.

With the amended drawings, specification and claims and the reasons provided above, the applicant hereby respectfully requests that Examiner's objections and rejections under double patenting and under 35 USC § 112 and 35 USC § 103 be withdrawn and the present application be allowed.

Respectfully submitted,
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By

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